

# THERMAL TREATMENT METHOD OF SILICON SUBSTRATE

Title:

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Equivalents:

## Abstract

PURPOSE: To provide a thermal treatment method wherein the surface of a silicon substrate is lessened in number of crystal defects, and a silicon integrated device is enhanced in electrical properties.

CONSTITUTION: A silicon substrate is thermally treated through such a manner that it is thermally treated at temperatures of 1000 to 1350 deg.C or preferably 1100 to 1350 deg.C for above 10 minutes or preferably above 30 minutes in an atmosphere of hydrogen gas, inert gas, or mixed gas of inert gas loaded with 1ppba to 1ppma of SiH<sub>4</sub> gas, Si<sub>2</sub>H<sub>6</sub> gas, or mixed gas of SiH<sub>4</sub> gas and Si<sub>2</sub>H<sub>6</sub> gas. By this setup, the silicon substrate lessened in number of crystal defects in its surface, possessed of an oxide film high in dielectric strength, and small in leakage current can be manufactured, and a silicon integrated device higher in reliability can be manufactured by the use of the above silicon substrate.